

ABSTRACT OF THE DISCLOSURE

A switching power supply control-circuit according to the present invention uses bleeding resistors to charge a start-up capacitor and discharge an EMI filter. No extra discharge device is needed to accelerate the discharge of the input capacitor, since the start-up capacitor is charged up by the AC input source. A latch circuit of the power supply can be quickly reset after the AC input source is shut off. After the control-circuit begins to operate, the auxiliary winding of the transformer will power the control-circuit. To further reduce power consumption, the auxiliary winding generates a bias voltage to enable line-voltage detection. This allows the power supply to perform line-voltage detection and startup, without having to connect resistors or transistors to the input capacitor.